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CLAIMS

What is claimed is:

1	1. A method for preparing a region of an electronic document for printing on a printing
2	system having asymmetric misregistration behavior, comprising:

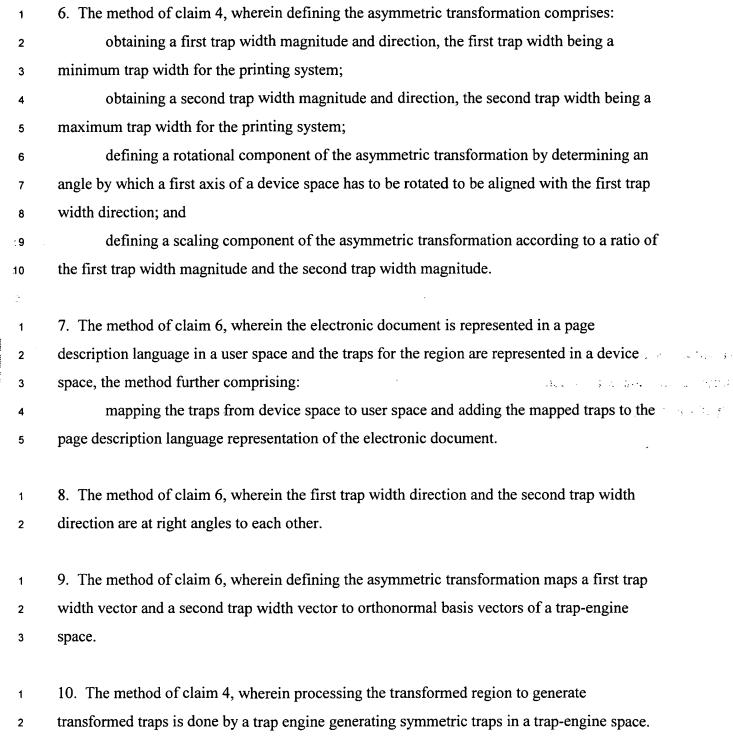
- trapping the region asymmetrically to compensate for asymmetric misregistration
- behavior of the printing system.
- The method of claim 1, wherein the region is an entire page or a portion of a page 2.500 represented in a page description language.
- 3. The method of claim 1, wherein the region is an entire page or a portion of a page.

 2 ** represented as a raster.

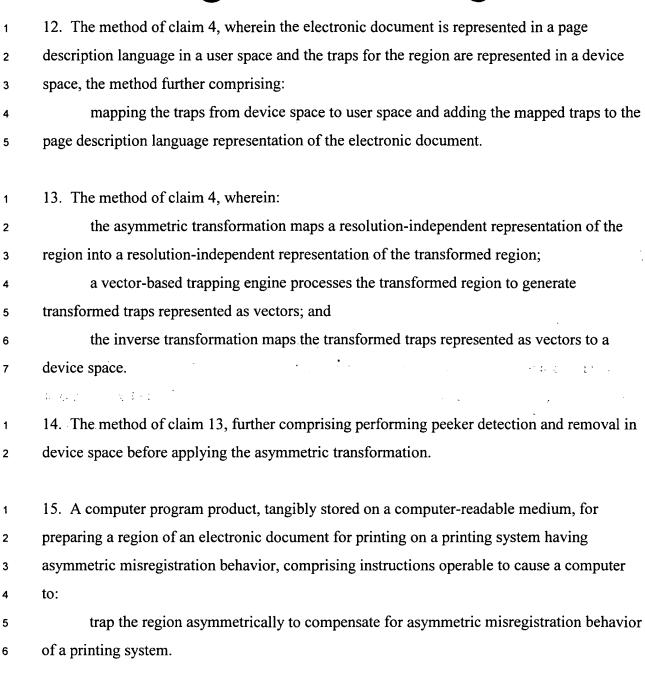
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4. The method of claim 1, further comprising: defining an asymmetric transformation; applying the asymmetric transformation to the region to generate a transformed region;

- processing the transformed region to generate transformed traps; and applying an inverse transformation to the transformed traps to generate traps for the region, the inverse transformation being an inverse of the asymmetric transformation.
- 5. The method of claim 4, wherein the asymmetric transformation is defined as a
- transformation matrix and the inverse transformation is defined as a matrix inverse of the
- 3 transformation matrix.



1 11. The method of claim 4, wherein the step of applying the inverse transformation maps the transformed traps from a trap-engine space to a device space.



- 1 16. The product of claim 15, wherein the region is an entire page or a portion of a page
- represented in a page description language.
- 17. The product of claim 15, wherein the region is an entire page or a portion of a page
- 2 represented as a raster.

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- 18. The product of claim 15, further comprising instructions to:

 define an asymmetric transformation;

 apply the asymmetric transformation to the region to generate a transformed region;

 process the transformed region to generate transformed traps; and

 apply an inverse transformation to the transformed traps to generate traps for the
 region, the inverse transformation being an inverse of the asymmetric transformation.
- 1 19. The product of claim 18, wherein the asymmetric transformation is defined as a
 2 transformation matrix and the inverse transformation is defined as a matrix inverse of the
 3 transformation matrix.
 - 20. The product of claim 18, wherein the instructions to define the asymmetric transformation comprise instructions to:

obtain a first trap width magnitude and direction, the first trap width being a minimum trap width for the printing system;

obtain a second trap width magnitude and direction, the second trap width being a maximum trap width for the printing system;

define a rotational component of the asymmetric transformation by determining an angle by which a first axis of a device space has to be rotated to be aligned with the first trap width direction; and

define a scaling component of the asymmetric transformation according to a ratio of the first trap width magnitude and the second trap width magnitude.

- 21. The product of claim 20, wherein the electronic document is represented in a page description language in a user space and the traps for the region are represented in a device space, the product further comprising instructions to:
- map the traps from device space to user space and add the mapped traps to the page description language representation of the electronic document.

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- 1 22. The product of claim 20, wherein the first trap width direction and the second trap width
- direction are at right angles to each other.
- 1 23. The product of claim 20, wherein defining the asymmetric transformation maps a first
- trap width vector and a second trap width vector to orthonormal basis vectors of a trap-engine
- 3 space.
- 1 24. The product of claim 18, wherein processing the transformed region to generate
- transformed traps is done by a trap engine generating symmetric traps in a trap-engine space:
- 1 25. The product of claim 18, wherein the step of applying the inverse transformation maps
- the transformed traps from a trap-engine space to a device space.
 - 26. The product of claim 18, wherein the electronic document is represented in a page description language in a user space and the traps for the region are represented in a device space, the product further comprising instructions to:
 - map the traps from device space to user space and add the mapped traps to the page description language representation of the electronic document.
 - 27. The product of claim 18, wherein:
 - the asymmetric transformation maps a resolution-independent representation of the region into a resolution-independent representation of the transformed region;
- a vector-based trapping engine processes the transformed region to generate transformed traps represented as vectors; and
 - the inverse transformation maps the transformed traps represented as vectors to a device space.
- 1 28. The product of claim 27, further comprising performing peeker detection and removal in
- device space before applying the asymmetric transformation.

- 29. A system for preparing a region of an electronic document for printing, comprising:
- a printing system having asymmetric misregistration behavior; and
- means for trapping the region asymmetrically to compensate for the asymmetric
- 4 misregistration behavior of the printing system.
- 1 30. The system of claim 29, further comprising:
- means for obtaining a minimum trap width and a maximum trap width defining the
- 3 asymmetric misregistration behavior of the printing system.